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ABSTRACT

Provided are suggestions for selecting and implementing a sign language system with multiply handicapped deaf children and adults, based on a program at the Stone Belt Center (Bloomington, Indiana). Discussed are reasons for deciding to use sign language with the multiply handicapped deaf, nine different sign language systems, guidelines for choosing a particular system, and research indicating that sign language can be taught to the multiply handicapped person. Suggestions for implementing sign language include using materials on an appropriate interest level, having the student's vision checked, reinforcing eye contact, and altering signs when necessary. (LS)

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TEACHING SIGN LANGUAGE

TO THE MULTIPLY HANDICAPPED DEAF PERSON

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TEACHING SIGN LANGUAGE TO THE MULTIPLY HANDICAPPED DEAF PERSON

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Our work with multiply handicapped deaf persons began about five years ago at Stone Belt Center. Stone Belt Center's program is for moderate, severe and profound mentally retarded children and adults and includes two preschool classes, seven school-age classes, a deaf blind class, a transitional program, a work activity program, a sheltered workshop, and a vocational rehabilitation program. Currently, we have one deaf preschooler, four deaf school-age children, and two deaf adults.

We began four-and-a-half years ago with one deaf child, Ricky. First, we repeatedly attempted to teach him to speech-read and to speak, but to no avail. Then, we tried using words printed on cards, but after twenty words, he seemed unable to remember more. In addition to being deaf and moderately retarded, this child had visual perceptual problems, so it seemed hopeless to continue efforts to teach him to speech read or to read the printed word. At that point, we began to consider sign language.

We did not feel particularly reluctant to introduce sign language to our students because there have been numerous studies reported in the literature which indicate that sign language, rather than being detrimental to language development in the deaf child, actually helps language development by providing an early medium for language. For example, Stuckless and Birch (1966) studied a group of deaf children of deaf parents and deaf children of hearing parents and concluded that the young deaf child exposed to manual communication develops better reading, writing, and speech reading skills than the deaf child who has had no early systematic method of communication. Similarly, Vernon and Koh (1970) compared thirty-two pairs of children from an oral preschool

with three years of intensive training and children who had manual education from deaf parents with no preschool training. They found the children of deaf parents to be superior in language skills by about one year; no differences were found between the children in speech or speech reading. A study by House and Fitch (1972) suggested that deaf children of hearing parents who had exposed the children to manual communication made greater gains in expressive communication than did the control group.

Having read studies like these, and facing the increasing age of our children, we were eager to try sign language. Furthermore, since one of the children was ten when we began with sign, and the second, six, they were long past the time of normal language development.

We were very naive when we began and assumed that there was a direct correlation between sign language and English, that every word had a sign, and that sign language was the same all over the United States. Our first teacher did not dispel most of these notions, although we did find out that there were not signs for all of the basic words we needed for Ricky.

Soon, we also encountered the problem of different signs for the same concept. Our first teacher left, after about a semester, and our second instructors, (children of deaf parents) used different signs for some of the words we had already learned. A friend from California came in to help and knew some still different signs. Suddenly, we had great confusion in the school--some teachers were using one form of a sign and others, another. The children--for Butch (deaf-retarded and cerebral palsied) had entered the program by then--were becoming confused. For those reasons, and a number of others to be mentioned later, we decided to write our own "in-house" sign manual to standardize the signs being used in our school.

These problems illustrate the fact that, once you have decided to use sign language, you must then decide what form to use. Although we had begun to use sign prior to publication of Harry Bornstein's article on current sign systems, we do like his criteria for choosing a sign system. They are as follows:

1. How easy is the system to learn?
2. How easy is the system to use?
3. How faithfully does it represent English?
4. How faithfully does it need to represent English?
5. Where and how was the target vocabulary assembled?
6. How close is the system to the transformed language, the American sign language?

These criteria are very useful for choosing a sign system for a deaf-retarded person. Obviously, the system should be easy for the person, his/her teacher, and his/her parents to learn. Furthermore, the closer it is to English, the easier it will be for hearing persons to learn. The vocabulary also should be suitable to the needs of the deaf person. Since the end point for our multiply handicapped clients is often unknown, the sign system should allow the person to communicate with those in the deaf community if at all possible.

There are many sign language systems currently in use, and the number seems to be growing rapidly. We do not pretend to be familiar with all of them. However, we will discuss the systems with which we have some familiarity.

1. When using the Manual Alphabet, one spells each word communicated letter by letter, just as if it were seen on the printed page. Often, this method is combined with some form of signing, with words spelled for clarification or for words that have no signs. The manual alphabet is

not useful for most multiply handicapped children and adults because a) both speller and receiver must have a knowledge of spelling as well as the concept of word units, b) the speller must have good fine motor control of the hands, and c) the receiver must have good visual perception.

2. The Rochester Method simply means spelling and talking at the same time.

3. American Sign Language was brought to this country from France by Thomas H. Gallaudet in 1817. Hearing persons have difficulty acquiring fluency in American Sign Language because it has a grammar which is different from English. For instance, "She was my teacher" would be signed, (point to indicated person) + my teacher finish." "I went to St. Louis" would be signed "Touch me St. Louis finish." Also, if the child has any potential for reading, signing one grammar system and reading another would be very counter-productive. Finally, many low-level vocabulary items (some clothing, foods, etc.) have no standard ASL signs and must be spelled--which brings one back to the problems inherent in the manual alphabet. American Sign Language may be learned from many sources, including O'Rourke's A BASIC COURSE IN MANUAL COMMUNICATION.

4. SEEING ESSENTIAL ENGLISH was developed by David Anthony and several others around 1971 for preschoolers through adult. The book is arranged by categories of word usage and root words and uses a complex notation system which must be learned to understand the signs. It has no pictures. If words are the same in any two categories (meaning, sound, or spelling) the signs are the same regardless of the concept. Signing is by morphemes, so that "drawer" would be signed "draw + er." Conventional word order is used. However, we find that our children and adults need a more conceptually based sign and cannot easily handle signing several morphemes for one sign.

5. SIGNING EXACT ENGLISH was intended for use with children. The book is pictured and fairly easy to understand. Like the previous system, if words are the same in any two categories (meaning, sound, spelling), the signs are the same regardless of concept. Word endings are included and English sentence order is retained. Nonetheless, the vocabulary, while very large, has not been adequate to meet our clients' needs (i.e., lower level vocabulary and workshop words), and in some cases it was confusing to them. Furthermore, some of the signs differed from the American Sign Language found in our area, so we hesitated to use them.

6. Signed English is part of the Gallaudet Pre-School Project. This series is based on the SIGNING EXACT ENGLISH manual. Several story books and two preschool dictionaries (2500 words) have now been published, and many more story books are planned. This system uses signed words which parallel English words in meaning only and include fourteen sign morphemes for tense, plural, gerunds, etc. Most of these books are quite new, and it is a bit early to know how useful the system will be. However, although we found the concept behind this series most interesting, the books that we have seen are too complex for our multiply handicapped children and unsuitable for our multiply handicapped adults.

7. LINGUISTICS OF VISUAL ENGLISH (LVE) was constructed for preschool children. The system contains 2000 morphemes and was set up to parallel English in the number of morphemes per work/sign--in other words, a three-movement sign for a three-syllable word. It is said to use a symbol system similar to the one used by Stokoe, which needs a teacher to teach the system but produces accurate signs from a written description. We have not had experience in our center with this system and so cannot comment on its relevance to the multiply handicapped. (Bornstein)

8. "Total communication" is a currently used term which means communicating by any means--fingerspelling, sign language, "body English," acting, speech. The sign systems previously mentioned, of course, can all be used in total communication.

9. TOTAL COMMUNICATION FOR RETARDED CHILDREN AND ADULTS is a book of signs we have compiled during the last four years to cover needs from preschool to workshop and to allow a child or adult, through signs, to label almost averything in his/her world. The signs are written out in a relatively simple notation system in order to standardize signs without confusing the teacher or parent. Though the system is not always parallel to English, English syntax and word endings are used. For instance, irregular verb endings are regularized. The book also includes a teaching section on methods of teaching sign language to a multiply-handicapped child. Within our center, it has worked well to standardize signs and introduce vocabulary for which there have not been signs in the past; nor have we received any complaints from others who have used it. Currently, it is being revised and enlarged to meet our students' demands for more words; there will also be a small pictured dictionary for the students and their hearing classmates to use.

Of course, the final decision regarding which sign system to use will depend on the needs of your program and the abilities of your staff and students. We do suggest that you choose one system, or perhaps one and a supplement, and consistently use it. Part of our original problems were caused by the input from two systems and three dialect areas. As we have mentioned, the variation in signs that resulted caused much confusion for both students and teachers.

There have been numerous recent articles which indicate that sign language can be taught to multiply-handicapped person, both hearing and deaf, child and adult. For example, Fenn and Rowe reported in the BRITISH JOURNAL OF DISORDERS OF COMMUNICATION (1975) that 71 boys, deaf, cerebral

palsied, "sub-normal," ages 10-13, had learned to understand and express a variety of semantic structures at the two-and three-word level and were beginning to communicate with each other. Hall and Talkington reported in the JOURNAL OF REHABILITATION OF THE DEAF (1972) that eighteen deaf residents of a public facility for the mentally retarded had increased their knowledge of signs by an average of 101 over twelve months and had also made significant changes in grooming, concept development, academics, recreation, responsibility and social behavior due to programming in these areas and a staff who signed. Hoffmeister and Farmer studied sixteen deaf subjects, IQ 12-88 (mean 43.6), of whom only two knew any sign. After twenty-four weekly two-and-a-half-hour sessions, four used 200 or more signs receptively and expressively and were spontaniously combining signs into two-and-three-word phrases. In addition, three knew 150 signs, one knew 100, two knew 75, one knew 10, and the rest, none; however, those who had learned no signs were considered to be autistic or severely brain damaged. Sutherland and Beckett reported in the JOURANL OF REHABILITATION OF THE DEAF (1969) on a project at a state hospital for mentally retarded. Twelve deaf-mutes, ages seven to forty-one years, were given training in sign language. After twelve months of two-and-a-quarter hours of classes a week, the students were reported to distinguish and perform 300 signs and use sentences three to five words long. After eighteen months, most were reported to be conversing. Sutherland and Beckett also noted that the students became more friendly and more eager to participate and that signs replaced some of their peculiar mannerisms.

Nonetheless, though several articles report that the multiply handicapped deaf person can learn sign language, few mention how to teach signing. Most of these few discuss teaching signing in terms of reinforcing responses to pictures rewarded in some way rather than discussing how to teach practical aspects of sign language which can be quickly acquired

by the child or adult and used with peers, teachers, and family. Therefore, a trial and error process is necessary to find solutions to the problems of such teaching and to problems of how to include these multiply handicapped deaf students in activities with their hearing peers. We would like to share some of our solutions with you.

Above all, one should be considerate of the feelings of the deaf, especially adults. For example, materials used for adults should be on an adult level, such as pictures of teenagers or older people doing things rather than pictures of small children. Even our multiply handicapped teenagers have indicated that they do not like such "childish" or "baby" materials. Nor have adults and children combined well in the same group even though they may be of the same mental level, unless perhaps the adult is helping the child. If both are treated the same way, neither seems comfortable. Similarly, conversations should be translated into sign for the deaf when possible, perhaps with some simplification. If that is not possible, at least sign "excuse me" if someone interrupts as you are working with a deaf student. In the classroom or workshop, you can sign lessons, stories or directions to the student, even if he/she won't understand all of them. Remember, the student may still pick up some signs incidentally, especially if you give good cues about what is happening, and at our center, signing directions/lessons and stories made our clients feel more a part of the group.

It is also helpful to coordinate the efforts of all persons who come into contact with the multiply handicapped child or adult deaf person--teachers, aids, family, cooks, or whoever. The signing of these various people should be kept as alike as possible, and their signing vocabulary (number of words, choice of words) for use with the student

should be planned so that he/she will be stimulated to use and learn sign without being inundated with signs.

One should keep in mind certain necessities of the signing process itself. For example, have the student's vision checked if necessary; one does need good vision to distinguish signs. If the student has a vision problem that is not completely correctable, at least stand closer to him/her when you sign. Also, talk as you sign. Such use of varying modes of communication is the basis of the "total communication" approach, and it is possible that your student(s) may acquire some speech. At our center, three of our children and two adults are now using verbalizations as they sign; although none of them would be intelligible without the sign, these verbalizations are a good beginning. Also, the verbalizations of children who do not sign well sometimes provide an extra clue to what is being signed. We have found this to be especially true in working with our cerebral palsied child; much of his sign is sloppy, but if he speaks the appropriate vowel, it helps us to distinguish his signs.

When you begin signing with multiply handicapped persons, keep your signing very precise; try to make the signs the same way each time. To anyone just learning to sign, many signs tend to look alike anyway, so variations in a single sign can only compound the confusion. As you and the student(s) become more adept at sign, the variations of interpretation that are so rich in the manual language of the deaf can be added. For example, an object can be "big" or "BIG"; an even can be "later" or "L-A-T-E-R."

One essential point to remember is that teaching sign language to a client, multiply handicapped or not, is similar to teaching oral language to a hearing child, except that "lessons" are presented in a different mode. Voice, writing and sign are all different modes of the same language.

Bellugi and Klima (1972) noted that observations of the development of deaf children suggest that they go through language use stages similar to those of hearing children. Just as it takes many repetitions of a word in various contexts for a hearing child to learn the word, so it takes many signed repetitions for a deaf person to learn a word. The deaf person must see language to learn it, so it is important for those around him/her (parents, teachers, brothers, and sisters) to sign frequently at an appropriate level about what they are doing, what they see, or whatever. This is analogous to talking to a hearing child about what's happening around him/her.

Since it is most difficult to teach sign to a student who will not look at you, you will first need to control his/her behavior to some degree. This problem occurred with two of the children with whom we have worked. Initially, you must reward the student (preferably socially) for eye contact, and then for longer periods of attention. However, a considerable amount can be taught if he/she gives even brief eye contact, but your timing must be good. In a classroom with hearing peers, the multiply handicapped deaf child should be encouraged to behave as much like the other children as possible. For example, if the other children are sitting, there is no reason why the deaf multiply handicapped child should not be sitting too.

Once the deaf person is paying attention, two basic methods of teaching signs may be used. One can have the person imitate the hand positions of the teacher, much as a child imitates speech; however, use of this method alone tends to make some children echolalic in sign. Alternately, one can take the person's hands and lead him/her through the signs, manipulating hand and arm positions as needed. When using molding, one can gradually withdraw the help--first by actually taking

the child's hands through the sign, then by using less pressure on the hands, then by gently pushing a wayward hand in the right direction, and last by a touch to the arm to get a sign started, or perhaps a quick, partial motion to imitate. For many clients, we have found it more effective to use both imitation and molding than to use either method alone.

One of the most basic concepts the child or adult must learn is that every object, action, and even some things that he/she can't see, has a sign. Once this correspondence between signs and object/action is taught, the next signs seem to come easier. The need for this sign-to-word correspondence is probably the reason that many educators of the deaf begin by teaching nouns.

Once the child or adult has the concept that each action or object has a sign, begin to use signs frequently, especially in situations when the meaning is reasonably obvious. If a child brings you a flower, point and sign "flower" and then perhaps "pretty." If an adult is sick, sign "sick." Use contrasts to make abstract meanings more obvious; for example, you might use water to contrast "hot" and "cold." Teach signs for feelings early. For instance, if a child is smiling and bouncy, sign "you happy." If the child is angry, mold his/her hands into signing "I mad." In fact, we reduced one child's temper tantrums significantly just by giving him the sign for "angry" so that he did not have as much need for tantrums. If you have an aid or a volunteer who is willing to learn sign, sign to that person as you talk to let the client know that signing can truly be used for communication.

At Stone Belt, we began signing with all our students at the one-word level, just as the normal child begins with language. Gradually, we signed more than we expected the students to acquire and "expanded" their signed

words and phrases. For instance, if the person signed "drink," we might sign "you want drink" and then give him/her a drink.

We have found that our mulitply handicapped children (both deaf and hearing) learn language faster if the words or the signs taught are appropriate for that child--something the child wants to communicate--rather than a predetermined vocabulary. For example, to one of our children, "more" was most important--more food, more swim, more everything. For another, "tie" was the first sign, because she wanted the ribbons on her pigtails tied frequently. Because another child liked to jump, "jump" was her first word.

It is also useful to require the student who has a basic knowledge of signing to use it at certain times to get what he/she wants--food, a certain toy, etc. However, you should be careful to require that the student sign only for things for which you know he/she can make the proper signs. Furthermore, you should be certain that items for which you require signs are not particularly necessary for the student's well being. Otherwise, you can find yourself with a problem such as a diabetic child who must eat but who will not ask for lunch.

Similarly, if a student is just beginning to sign, try to give him/her whatever was signed for regardless of whether the student really wanted the item or activity and almost regardless of convenience. If he/she signs "more play," play a bit more even if the lesson plans say it is time for writing. Such behavior gives the child or adult an indication of the power of language; many of our children seemed to increase their knowledge of sign as they realized that they were <u>communicating</u> with others. This technique also reinforces the relationship of actions or objects to signs. After the student is signing more frequently, you can begin to reply to requests by signing "later," and finally, "no, sorry." Interestingly enough, such behavior on our part did not seem to discourage our children--

gradually, inappropriate requests faded out, but the communication remained.

We also found it useful to teach students a simple "I don't know." For example, one of our children was a perfectionist; given a four-choice question in which she knew her answer would be wrong, she would procrastinate and then throw a temper tantrum rather than give a wrong answer. However, once we taught her a natural gesture for "I don't know," she could "save face" and the problem eased.

If necessary, alter or invent signs for the student's needs. For example, at Stone Belt, we have a client who cannot make fine finger movements; we have adapted some signs to make them more usable for him but have kept them as close as possible to standard signs. In addition, we made notes of these adapted signs and have circulated them among staff members, making it clear that these signs are only for this particular person. If it is necessary to adapt signs for still other students, we plan to maintain these existing adaptations as "standard" as much as possible. In our opinion, the goal should be communication rather than perfection in signing.

Just as one must sometimes alter signs, one must also sometimes try innovative teaching methods in order to help these students. For example, most children learn to understand some language, and to show that they do by responding appropriately, before they produce language. However, we had one child who did not respond to our signing over a long period of time. Instead, the child indicated that she wished to control her environment by crying and throwing temper tantrums. However, after we began molding her hands to substitute signs such as "stop" and "give" when we could tell what she wanted, she began to use these signs on her own. Finally, she began responding appropriately to our signs.

Along with the foregoing procedures, we have used more formal lessons. For example, we may first teach a deaf student to identify a picture of a dog at the signed request, "find dog"; then, we teach him/her to "find tree." Next, we place both pictures before the student and seek to teach him/her to distinguish between the signs for "dog" and "tree." Much later, after adding more vocabulary in a similar manner, we may move on to still more difficult tasks, such as "give dog; take tree" or "find brown dog" or "find big tree."

This sort of lesson may be carried over to non-classroom situations. For instance, our children seem to enjoy such activities at lunch and have learned from them. We may begin with "find corn" or "find yellow" and later move on to "Where is your corn?", "Where is Butch's corn?" or (still later) "Put the fork under the napkin." Such activities are even more effective if two signing adults are available; then there is one to question the student and one to help him/her with the responses by modeling, direct imitation or as an example. Furthermore, the two adults can communicate between themselves to show the student that signing is useful.

A number of "games" have been helpful both to get the reluctant children started signing and to show the children that language is useful and fun. These games require two teachers and the child; one teacher, the child, and a hearing child; or a teacher and a slightly advanced child. The child should be allowed to play both roles, since each role uses different skills. One such basic game is "stop." In this game, one annoys the child by pulling his/her clothing, pushing him/her gently, etc., until the child signs "stop." At first, a second adult will be needed to act as a model and/or to help the child make the sign, but this help can gradually be withdrawn. Furthermore, as the child progresses, a longer response, such as "you stop" or "stop pulling shirt," can be required.

Variations of this game include "help," in which the child must ask for "help" from a third person; "move," in which the adult stands in the child's way until the child signs "move," "you move," etc.; and "give me," in which the adult takes something belonging to the child and keeps it until the child signs "give," "give _____ (object)," etc.

It is important that these games be appropriate to the level of the child and that he/she be given sufficient help. Too much help defeats the learning of sign; too little frustrates the child. At our center, we found that, in addition to helping our multiply handicapped children learn sign, these games also had a positive effect on the children's relations with their peers, since it gives them a way to protect themselves from teasing besides fighting, crying, or temper tantrums.

Besides using these games with our deaf multiply handicapped children, we have also employed them successfully with adults. As long as the games are played in a spirit of fun, and the concepts being taught are relatively new, there have been no problems. To the contrary, like the other procedures we have outlined, they have proved to be useful in helping our clients acquire an important new means of communicating with the world around them.

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